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June 7, 2000

VIA HAND DELIVERY

Magalie Roman Salas
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: Ex Parte Filing in Deployment of Wireline Services Offering Advanced Telecommunications Capability: CC Dkt. 98-147

Dear Secretary Salas:

In the Commission's Third Report and Order in the above-referenced docket, the Commission discussed various issues relating to loop testing in a line sharing situation. Specifically, the Commission discussed the difficulties inherent in the incumbent and competitive carrier having access to the shared loop for testing activities.

NHC Communications Inc., a leading provider of carrier class test access and deployment solutions for the DSL service market, has just announced at the Supercomm Trade Show that its VCCS system solves the issues raised by the Commission in its Report and Order. This testing solution allows both ILECs and CLECs to test their portions of the copper line remotely, thereby minimizing costly service overhead and reducing the immense cost associated with service downtime.

Enclosed herein is a White Paper produced by NHC Communications Inc. which describes the NHC solution to the line testing challenges posed by line sharing. We would welcome an opportunity to meet with Commission staff to further discuss our product and how it can be used to speed DSL deployment in the United States.

Sincerely,

Andrew Lipman
email

Andrew D. Lipman

Enclosure

cc: Lawrence E. Strickling
Yog Varma
Robert Atkinson
Carol Matty
Stacy Pies

WHITE PAPER:

NHC'S LINE-SHARING SOLUTION

NHC Communications' Solution is Capable of Resolving the Shared-Line Testing Problem in U.S. Market

The latest FCC rulings such as "line sharing" will open up the DSL market like never before, allowing CLECs to offer voice or data service to any ILEC subscriber

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Introduction

In November 1999, the Federal Communications Commission (FCC) in the United States ruled that Incumbent Local Exchange Carriers (ILECs) must share lines with any Competitive Local Exchange Carrier (CLECs). The goal was to provide consumers with a cost-effective solution for receiving differentiated data services. The ruling (FCC 99-355) allowed ILECs to maintain the low frequency portion of the telecom line providing voice transmission and for CLECs to use the high frequency segment for data access solutions.

Splitters are required to separate the higher frequency portion of the line going to the CLEC collocation from the low frequency portion being used by the ILEC.This arrangement hampered the CLECs from performing full spectrum voice and data testing on the local loop. On the other hand, ILECs are concerned that testing by CLECs might interfere with the ILECs Plain Old Telephone Service (POTS).

This white paper is intended to explain the problem and put forth NHC's solution to the problem.

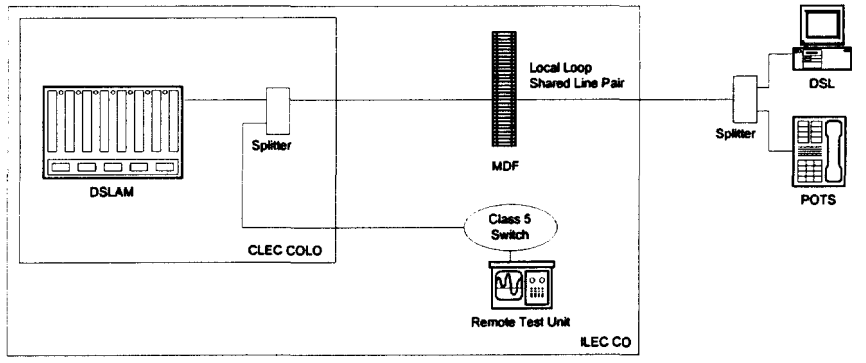
The Shared-Line Testing Problem

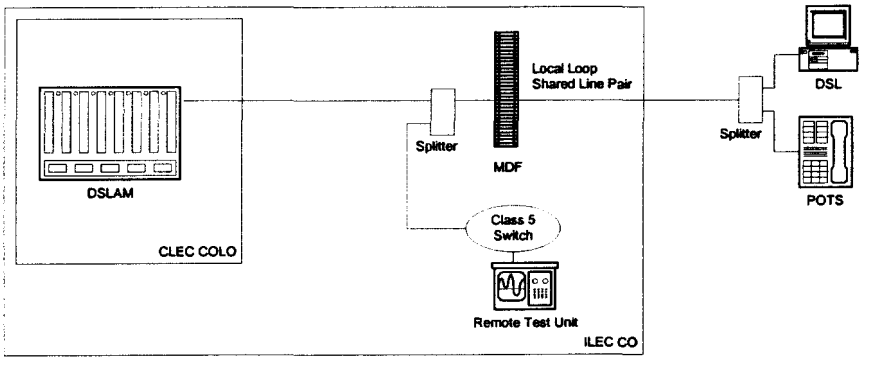
In a non-line sharing environment, the CLEC and ILEC each have full-spectrum test access to their respective lines. Since each LEC has full control over its copper lines, the ILEC can test the local loop for bridge taps, coils and other anomalies that are critical to reliable analog voice transmission and the CLEC can fully test the local loop for parameters that are critical for high-speed data transmission.

However, under the November line-sharing ruling, the ILEC is required to allow the CLEC to share the existing lines to allow it to provide high speed data service on the same line that the ILEC is providing its POTS service. The splitter is a piece of equipment that allows this to happen.

The splitter allows the CLEC to provide high-speed data service to the local loop but blocks it from providing POTS service that is handled by the ILEC. The splitter allows the ILEC to provide POTS voice service but blocks it from providing high speed data service.

The problem is that although the CLEC might not need to provide POTS service, it needs to perform tests at low frequencies. The presence of a splitter prevents the CLEC from conducting low-frequency testing that is crucial to qualifying the line for DSL services. The splitter may be located either in the CLEC collocation (COLLO) or in the ILEC central office (CO) as shown in the diagrams below.





For example, if the splitter is located in the ILEC CO, then the CLEC cannot conduct low frequency testing to ensure that there are no bridge taps or coils on the line. The presence of the taps and coils although not a problem to the ILEC's POTS service, is a major problem for the CLECs who can not test the low-frequency portion of the local loop. In order for line-sharing to work, the CLEC must have full-spectrum test-access to the shared line.

Local loop testing is a function that both CLEC and ILEC want to be able to do remotely. With the splitter in place, if a problem with the local loop arises, the CLEC can only perform high frequency tests , thus preventing it to determine the source of the problem. In order to diagnose a problem the CLEC or ILEC is

forced to send a technician to the CO to insert a tester before the line is split. This significantly increases the delay and cost in deploying DSL and other high-speed services.

NHC has studied the problem and has come up with a proposed solution that would allow the CLEC and ILEC to perform line testing on the unfiltered local loop via remote control and to circumvent the splitter for testing purposes. The solution involves the integration of its VCCS physical layer switching system into either the CLEC COLLO or the ILEC CO.

The NHC Solution – Two Approaches

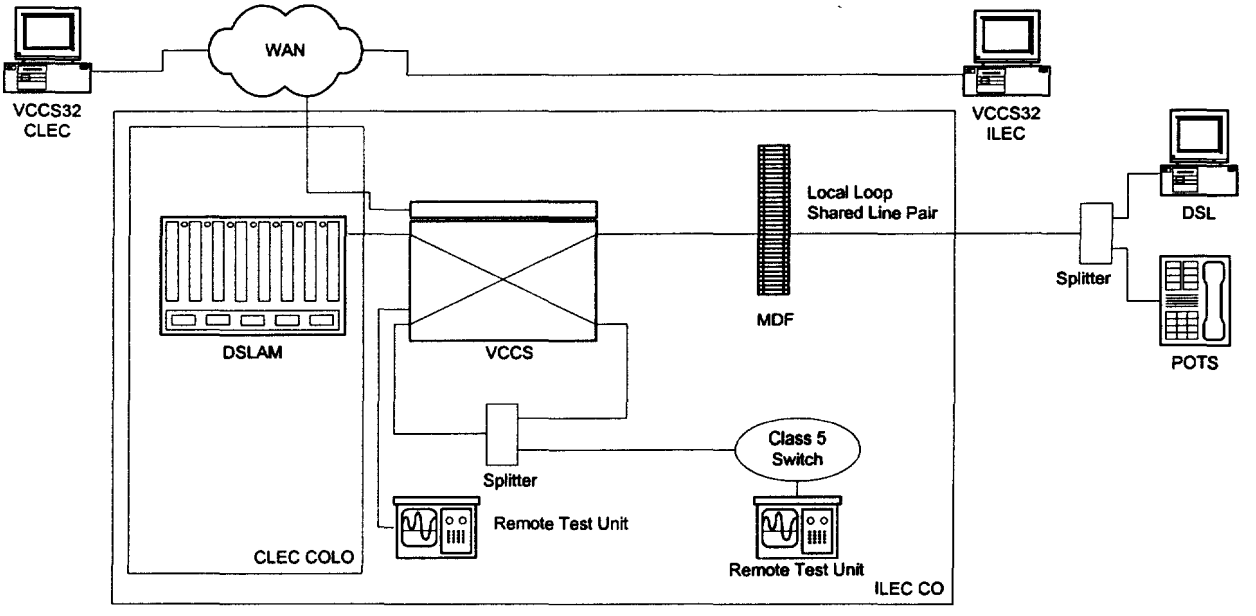
NHC is offering a solution based on its Virtual Cross-Connect System (VCCS). The VCCS solution is a copper cross-connect system that supports four main applications: DSL Loop Qualification, DSL Line Provisioning, Service Migration and Fallback Switching to help reduce the deployment and maintenance time for high-speed data services. For more information please see Appendix A. The NHC solution offers two approaches depending on where the splitter is located. They are described below.

SOLUTION A – SPLITTER IN ILEC LOCATION

In the first approach, the splitter is located in the ILEC CO. Without the VCCS solution, the ILEC would have full access to the local loop for testing but the CLEC would be blocked from doing low-frequency testing since the CLEC only has access to the high-frequency portion of the line. This would impede the CLEC from qualifying the line for DSL transmission.

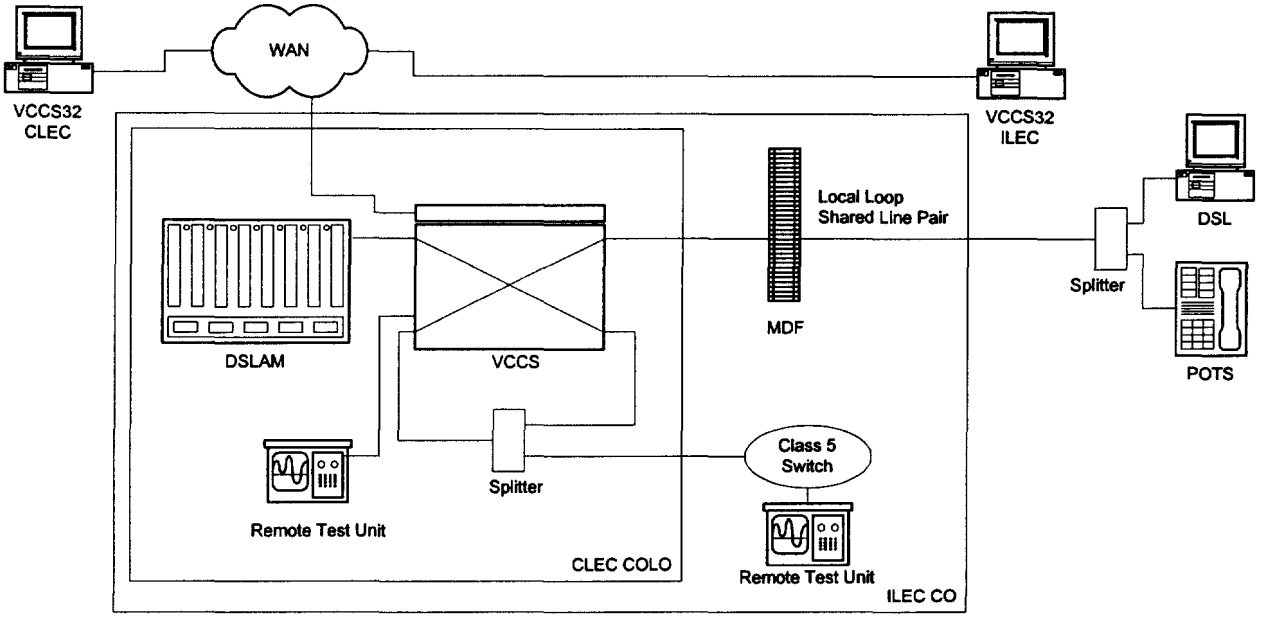
The solution entails placing NHC's VCCS Copper Cross-Connect solution between the MDF and the splitter. By placing the VCCS solution in the CO, both parties would have full access to the test head (RTU) and full spectrum testing of the line. To protect the ILEC, the CLEC would have limited cross-connect access only to shared lines. In order to protect against off-hook interference while the CLEC is qualifying a line for DSL services, the VCCS solution would have built-in protection that would prevent the test head from being connected to a line if the line was off-hook. When the line goes on-hook, connection to the line by the test head would be enabled.

This solution allows the ILEC to comply with the FCC November ruling and provide full test access capability to the CLEC.



SOLUTION B – SPLITTER IN CLEC LOCATION

In the second approach, the splitter is located in the CLEC COLLO. The solution entails placing NHC's VCCS Copper Cross-Connect solution in the CLEC COLLO. By placing the VCCS solution in the COLLO, both parties would also have full access to the test head (RTU) and full-spectrum testing of the line. To protect the CLEC, the ILEC would have limited cross-connect access only to shared lines.



Issues and Benefits

In both approaches, the CLEC and ILEC would have access to the VCCS solution over a shared LAN/WAN.

The benefits of the NHC solution is that it allows test access to continue to be done remotely as in an unshared line environment. Although an additional port on the cross-connect is required for each shared line, the long term benefits such as shorter deployment time and support for remote spot line-testing are significant. In order to avoid the CLEC interfering with the ILEC's regular voice service, NHC software can be configured to support full spectrum testing only when the voice line is on-hook.

NHC's solution also allows existing equipment to be used, thereby minimizing the investment costs needed by the Telecommunications Service Providers in order to achieve compliance with FCC November ruling.

Additionally, NHC's solution provides security to all parties involved, including providing assurance to the ILECs that their POTS service will not be affected.

Conclusion

The November 1999 shared-line ruling presents major incentives to deployment of DSL services. One of the challenges presented by line sharing, testing of shared lines, is solved by NHC's VCCS solution.

The VCCS solution supports four main applications; DSL Loop Qualification, DSL Line Provisioning, Service Migration and Fallback Switching and is comprised of three main elements:

1) Switchex/DVS: A true any-to-any copper cross that is installed between the CLEC's DSLAM and the CLEC's unbundled loops coming from the ILEC's MDF.

2) SNMP/DVS: NHC's Ethernet proxy agent that allows Switchex/DVS to be managed from any Ethernet LAN.

3) VCCS32/DVS: NHC's Windows-based cross-connect management software platform that controls Switchex/DVS via SNMP /DVS.

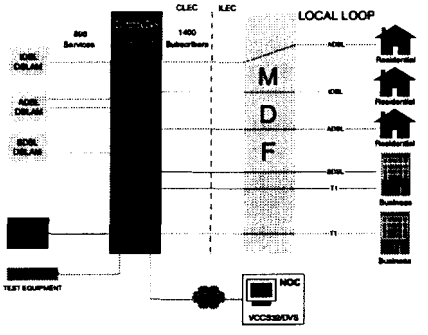
For more information about how NHC's VCCS Line-Sharing Solution, please contact NHC at 800-361-1965 or 514-735-2741.

Appendix A

NHC Virtual Cross-Connect System (VCCS™)

The Copper Cross-Connect for CLEC and ILEC Local Loop Qualification, Provisioning, Migration and Fallback Switching

The VCCS solution is an integrated copper cross-connect system that helps CLECs qualify and provision DSL services remotely without the need to enter the CLEC's collocation (COLLO). The VCCS solution works with third party equipment such as Hekimian's Coppermax/RT Remote Test Unit, enabling the NHC's cross-connect to be used as a test access platform for rapid loop qualification. The VCCS solution is being deployed for DSL local loop qualification, provisioning, migration and fallback switching. The VCCS solution works with every major DSLAM vendor such as Promatory's IMAS.



The VCCS cross-connect matrix size and loopback capabilities allow multiple services to be provisioned and migrated remotely on-the-fly and on-demand. The VCCS solution minimizes the number of costly truck-rolls needed to qualify and provision high speed data services. Furthermore the VCCS solution allows the service provider to migrate users to higher speed data services quickly. Lastly, by using the VCCS solution, the CLEC has the ability to use any available port on the DSLAM for fallback switching thus providing added value to both the CLEC and the subscriber.

With collocation space at a premium, Switchex/DVS is extremely compact and scalable. The 1024T model scales in increments of 128x200 pairs and can grow to 896x1400 copper pairs. For example a fully loaded chassis (896 x 1400 pair matrix) occupies 9RU on a single 23" rack. The product minimizes operating and maintenance costs and eliminates service request truck-rolls, thereby improving QoS and compliance to SLA's.

Features and Benefits

- Remote, any-to-any, non-blocking matrix design supports loop qualification, provisioning, service migration and fallback switching in one product helps eliminate "truck rolls". Ie; Model 1024T allows any of the 896 equipment ports to be connected to any of the 1400 subscriber ports.
- Supports up to four (4) concurrent test sets through one copper cross-connect system.
- All standard test modes supported between any subscriber and equipment ports
- Scalable architecture from 128 x 200 up to 896 x 1400 subscriber pairs.
- Transparent to signal protocol supports wide range of high speed data protocols; ADSL, IDSL, SDSL, HDSL, HDSL2, VDSL, ISDN, T1/E1, VF POTS (voice)
- Low space requirement; 896 x 1400 pair uses only 9U rack spaces.
- Carrier Class Redundancy, NEBS Level 3 tested; connections maintained in event of power outage.
- Furthermore any subscriber side pair can be looped back to any other subscriber side pair.